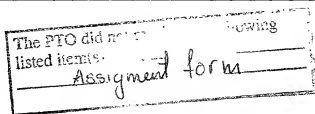


FORM-PTO-1390 (Rev. 9-2001)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				000026-045	
				U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5) Unassigned 10/018778	
INTERNATIONAL APPLICATION NO. PCT/SE00/01263		INTERNATIONAL FILING DATE 16 June 2000		PRIORITY DATE CLAIMED 30 June 1999	
TITLE OF INVENTION METHOD OF THREADING					
APPLICANT(S) FOR DO/EO/US Tommy FRANSSON and Evert NILSSON					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. <input type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (Article 31). <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). Items 11 to 20 below concern document(s) or information included: 11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825. 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information: Attached: International Search Report (Form 210) During the international phase of examination, a certified copy of Swedish Application No. 9902480-4, filed 30 June 1999 was submitted. Thus, the claim for priority has been perfected.					



21839

U.S. APPLICATION NO. (If known, see 37 CFR 1.492) Unassigned		107-018778		INTERNATIONAL APPLICATION NO. PCT/SE00/01263		ATTORNEY'S DOCKET NUMBER 000026-045	
21. <input checked="" type="checkbox"/> The following fees are submitted:						CALCULATIONS	
Basic National Fee (37 CFR 1.492(a)(1)-(5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1,040.00 (960) International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 (970) International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00 (958) International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 (956) International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 (962)							
ENTER APPROPRIATE BASIC FEE AMOUNT =						\$ 1,040.00	
Surcharge of \$130.00 (154) for furnishing the oath or declaration later than 20 <input type="checkbox"/> 30 <input type="checkbox"/> months from the earliest claimed priority date (37 CFR 1.492(a))						\$ --	
Claims		Number Filed		Number Extra		Rate	
Total Claims		20 - 20 =		--		X \$18.00 (966) \$ --	
Independent Claims		1 - 3 =		--		X \$84.00 (964) \$ --	
Multiple dependent claim(s) (if applicable)				+ \$280.00 (968)		\$ --	
TOTAL OF ABOVE CALCULATIONS =						\$ 1,040.00	
Reduction for 1/2 for filing by small entity, if applicable (see below).						+ \$ --	
SUBTOTAL =						\$ 1,040.00	
Processing fee of \$130.00 (156) for furnishing the English translation later than 20 <input type="checkbox"/> 30 <input type="checkbox"/> months from the earliest claimed priority date (37 CFR 1.492(b))						+ \$ --	
TOTAL NATIONAL FEE =						\$ 1,040.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 (581) per property						+ \$ 40.00	
TOTAL FEES ENCLOSED =						\$ 1,080.00	
						Amount to be refunded: \$	
						charged: \$	
a. <input type="checkbox"/> Small entity status is hereby claimed. b. <input type="checkbox"/> A check in the amount of \$ <u>1,080.00</u> to cover the above fees is enclosed. c. <input type="checkbox"/> Please charge my Deposit Account No. <u>02-4800</u> in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>02-4800</u> . A duplicate copy of this sheet is enclosed.							
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.							
SEND ALL CORRESPONDENCE TO: Benton S. Duffett, Jr. BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, Virginia 22313-1404 (703) 836-6620							
SIGNATURE <i>Benton S. Duffett Jr.</i> Benton S. Duffett, Jr. NAME 22,030 REGISTRATION NUMBER						December 21, 2001 DATE	



10/018778

JC03 Rec'd PCT/PTO 21 DEC 2001

Patent
Attorney's Docket No. 000026-045
KN 3076 US/MI

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of) BOX PCT
)
TOMMY FRANSSON et al.) Attention: DO/EO/US
)
Application No.: Unassigned) Group Art Unit: Unassigned
)
Filed: December 21, 2001) Examiner: Unassigned
)
For: METHOD OF THREADING)
)
)
)
)
)

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is a national phase filing of International Application No. PCT/SE00/01263,
filed June 16, 2000.

Please amend the above-identified Application as indicated.

IN THE ABSTRACT:

Please add the Abstract of the Disclosure that is provided on a separate sheet.

IN THE CLAIMS:

Kindly replace Claims 3 to 8 as follows:

10018778-122101

3. (Amended) A method according to the claim 1, characterized in that the successive increase of the width of that part which is passed through the processing plant is preceded by an initial interval with an essentially constant width, and that the successive increase of the width of that part which is passed through the processing plant occurs through at least two monotonously growing phases with an intermediate interval with an essentially constant width, preferably through three or more monotonously growing phases with intermediate intervals with essentially constant widths.

4. (Amended) A method as claimed in claim 1, for threading a material web through a processing plant, in which the material web, in alternating directions, passes through two or more decks, characterized in that the length of the intermediate interval or intervals exceeds the length of the material web located in an individual deck, but that the length of the intermediate interval or intervals preferably is smaller than twice the length of the material web located in an individual deck.

5. (Amended) A method according to claim 1, characterized in that the length of at least one monotonously growing phase is smaller than the length of the material web located in an individual deck.

6. (Amended) A method according to claim 1, characterized in that the length of each of two or more monotonously growing phases, preferably the first phases, is smaller than the length of the material web located in an individual deck.

7. (Amended) A method according to claim 1, characterized in that the width of the first part during the initial interval is 50-200 mm, preferably about 100 mm.

8. (Amended) A method according to claim 1, characterized in that the width of the first part during one or more monotonously growing phases is increased by a factor 2 to 5.

Kindly add the following new Claims 9 to 20:

9. (New) A method according to the claim 2, characterized in that the successive increase of the width of that part which is passed through the processing plant is preceded by an initial interval with an essentially constant width, and that the successive increase of the width of that part which is passed through the processing plant occurs through at least two monotonously growing phases with an intermediate interval with an essentially constant width, preferably through three or more monotonously growing phases with intermediate intervals with essentially constant widths.

10. (Amended) A method as claimed in claim 2, for threading a material web through a processing plant, in which the material web, in alternating directions, passes through two or more decks, characterized in that the length of the intermediate interval or intervals exceeds the length of the material web located in an individual deck, but that the length of the intermediate interval or intervals preferably is smaller than twice the length of the material web located in an individual deck.

10018778.122101

11. (New) A method as claimed in claim 3, for threading a material web through a processing plant, in which the material web, in alternating directions, passes through two or more decks, characterized in that the length of the intermediate interval or intervals exceeds the length of the material web located in an individual deck, but that the length of the intermediate interval or intervals preferably is smaller than twice the length of the material web located in an individual deck.

12. (New) A method as claimed in claim 9, for threading a material web through a processing plant, in which the material web, in alternating directions, passes through two or more decks, characterized in that the length of the intermediate interval or intervals exceeds the length of the material web located in an individual deck, but that the length of the intermediate interval or intervals preferably is smaller than twice the length of the material web located in an individual deck.

13. (New) A method according to claim 2, characterized in that the length of at least one monotonously growing phase is smaller than the length of the material web located in an individual deck.

14. (New) A method according to claim 3, characterized in that the length of at least one monotonously growing phase is smaller than the length of the material web located in an individual deck.

10018778.122101

15. (New) A method according to claim 2, characterized in that the length of each of two or more monotonously growing phases, preferably the first phases, is smaller than the length of the material web located in an individual deck.

16. (New) A method according to claim 3, characterized in that the length of each of two or more monotonously growing phases, preferably the first phases, is smaller than the length of the material web located in an individual deck.

17. (New) A method according to claim 2, characterized in that the width of the first part during the initial interval is 50-200 mm, preferably about 100 mm.

18. (New) A method according to claim 3, characterized in that the width of the first part during the initial interval is 50-200 mm, preferably about 100 mm.

19. (New) A method according to claim 2, characterized in that the width of the first part during one or more monotonously growing phases is increased by a factor 2 to 5.

20. (New) A method according to claim 3, characterized in that the width of the first part during one or more monotonously growing phases is increased by a factor 2 to 5.

1018778-122101

REMARKS

The present Amendment adds an Abstract of the Disclosure on a separate sheet and modifies the claim format only so as to eliminate the use of multiple dependency.

An Information Disclosure Statement is being filed herewith.

The examination and allowance of the Application are respectfully requested.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: Benton S. Duffett Jr.
Benton S. Duffett, Jr.
Registration No. 22,030

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: *DECEMBER 21, 2001*

10018778.122101

10/018778

JC03 Rec'd PCT/PTC 21 DEC 2001

Application No. Unassigned
Attorney's Docket No. 000026-045
Page 1

Attachment to Preliminary Amendment dated December 21, 2001

Abstract of the Disclosure

A method for threading a material web (3) through a processing plant (1). The material web (3) is divided, by a longitudinal cut, into a first narrow part (31) and a second broad part (32), the first part (31) being passed through the processing plant (1) while the second part (32) is separated. The width of the first part (31) is increased successively so that a growing share of the material web (3) is passed through the processing plant (1). Finally the entire width of the material web (3) is passed through the processing plant (1). The material web (3) is pulled through the processing plant (1) by a controllable force (tension). The magnitude of the controllable force is automatically adjusted to the width of the first part (31) of the material web (3), preferably in such manner that the magnitude of the force is selected proportional to the width of the first part (31).

10018778.122401

Attachment to Preliminary Amendment dated December 21, 2001

Marked-up Claims 3 to 8

3. (Amended) A method according to the claim 1 [or 2], characterized in that the successive increase of the width of that part which is passed through the processing plant is preceded by an initial interval with an essentially constant width, and that the successive increase of the width of that part which is passed through the processing plant occurs through at least two monotonously growing phases with an intermediate interval with an essentially constant width, preferably through three or more monotonously growing phases with intermediate intervals with essentially constant widths.

4. (Amended) A method as claimed in claim 1, [2 or 3,] for threading a material web through a processing plant, in which the material web, in alternating directions, passes through two or more decks, characterized in that the length of the intermediate interval or intervals exceeds the length of the material web located in an individual deck, but that the length of the intermediate interval or intervals preferably is smaller than twice the length of the material web located in an individual deck.

5. (Amended) A method according to [any one of the preceding claims] claim 1, characterized in that the length of at least one monotonously growing phase is smaller than the length of the material web located in an individual deck.

10018778-122101

Attachment to Preliminary Amendment dated December 21, 2001

Marked-up Claims 3 to 8

6. (Amended) A method according to [any one of the preceding claims] claim
1, characterized in that the length of each of two or more monotonously growing phases,
preferably the first phases, is smaller than the length of the material web located in an
individual deck.

7. (Amended) A method according to [any one of the preceding claims] claim
1, characterized in that the width of the first part during the initial interval is 50-200 mm,
preferably about 100 mm.

8. (Amended) A method according to [any one of the preceding claims] claim
1, characterized in that the width of the first part during one or more monotonously
growing phases is increased by a factor 2 to 5.

10018778.122101

METHOD OF THREADING

FIELD OF THE INVENTION

The present invention relates to a method for threading a material web through a processing plant.

- 5 The method is specifically adapted for threading a material web through a processing plant, in which the material web, in alternating directions, passes through two or more decks, and in particular when the processing plant is adapted to tension the material web by
- 10 regulating the speed of one or more conveying cylinders so that somehow established tractive force is transferred to the material web.

BACKGROUND ART

- 15 Material webs, such as pulp webs or paper webs, are in technical contexts processed with widths of several meters and at considerable web speeds. Moreover, transfer often occurs between two or more processing steps, in
- 20 which an accurate control is necessary to prevent operational disorder.

- Especially when starting operation, the transfer between processing steps is a most critical point. When transferring a material web between two processing steps,
- 25 one therefore usually begins with a narrow strip at one edge of the material web, a so-called leader. The leader is pulled through the processing step and then the width of the material to be processed is successively increased until finally the entire width is reached. The part
- 30 separated during the threading is rejected or recycled for reworking.

 If the processing plant comprises more than two steps, the threading process must be repeated in each transition. This means that the reliability and speed of

10018778.122101

a threading method is most important to efficiency and economic yield. Each failure costs a lot of money.

Originally the width of the leader is purposely very small relative to the full width of the material web. As the successive increase of the width proceeds, it may during the threading, in one and the same processing step, be a web of material with a width from e.g. 0.1 m to 6 m. This means that the force by which the web is pulled through the processing step must be controlled most accurately. The length of the web in a processing step can, e.g. in paper and pulp dryers, be several hundreds of meters. However, the critical point is where the web enters a drier since the low dry solids content then gives the lowest strength.

One example of a close prior-art method is described in US-5,158,648. This publication describes in detail the established technique using an edge strip in connection with threading and the drawbacks involved therein. As an improvement it is suggested that the web be broadened symmetrically starting from a central point. To this end, use is made of two knives which are freely movable over the width of the web. This is said to prevent lateral movement and flapping of the web.

An operator monitors the process and controls the retrieval of slack and regulates the tension of the web.

OBJECT OF THE INVENTION

An object of the invention is to provide a quick and reliable method for threading a material web.

In particular the invention aims at providing a quick and reliable method for threading in transferring a web of pulp from the wet end to a dryer when manufacturing papermaking pulp and in transferring a paper web from the wet end to a dryer when making paper.

10018778-122101

SUMMARY OF THE INVENTION

The present invention relates to a method for threading a material web through a processing plant. The material web is divided, by a longitudinal cut, into a first narrow part and a second broad part, the first part being passed through the processing plant while the second part is separated. The width of the first part is successively increased so that a growing share of the web-shaped material is passed through the processing plant. Finally, the entire width of the material web is passed through the processing plant. The material web is pulled through the processing plant by a controllable force (tension).

In the method according to the invention, the magnitude of the controllable force is automatically adjusted to the width of the first part of the material web, preferably so that the magnitude of the force is selected proportional to the width of the first part.

20 GENERAL DESCRIPTION OF THE INVENTION

When threading a material web through a processing plant, the web is divided, by a longitudinal cut, into a first narrow part and a second broad part, the first part being passed through the processing plant while the second part is separated. The width of the first part is successively increased so that a growing share of the material web is passed through the processing plant. This is a critical phase in the production of, for example, paper. The risk of repeated breaks of the web with the ensuing long downtimes is obvious. The conventional method of controlling the force by which the leader is pulled through the dryer is that an operator first performs the retrieval of the slack forming on the occasion of starting and subsequently manually increases the tractive force in the web, the so-called web tension, so that the web is kept suffi-

10018778-122101

ciently tensioned but is not subjected to such stress as results in web break.

According to the present invention it is suggested that the magnitude of the controllable force that pulls the web through the dryer be automatically adjusted to the width of the first part, the leader, of the material web. This should in the first place occur in such manner that the magnitude of the force is selected proportional to the width of the first part.

The preferred principle is that the magnitude of the force is adjusted proportional to the width of the web when entering the dryer. This can be carried out, for example, by synchronous control of the position of the knife dividing the web and the tractive force giving the tension to the web. A further possibility is that the width of the web is measured in the vicinity of the web entering the dryer and that this measured value is allowed to control the tractive force.

After an initial interval with an essentially constant width, the width of that part which is passed through the processing plant is successively increased. This may occur continuously, but occurs suitably through at least two monotonously growing phases with an intermediate interval with an essentially constant width, preferably through three or more monotonously growing phases with intermediate intervals with essentially constant widths.

If the material web, in alternating directions, passes through two or more decks, the length of the intermediate interval or intervals should exceed the length of the web located in an individual deck. Suitably the length of the intermediate interval or intervals is smaller than twice the length of the web located in an individual deck.

The length of at least one monotonously growing phase should be smaller than the length of the web located in an individual deck. In a preferred embodiment,

10018778.122101

the length of each of two or more monotonously growing phases, preferably the first phases, is smaller than the length of the web located in an individual deck.

The width of the first part during the initial
5 interval should be 50-200 mm, preferably about 100 mm.

The width of the first part during one or more monotonously growing phases should be increased by a factor 2 to 5.

10 BRIEF DESCRIPTION OF THE FIGURES

The invention will now be described in more detail with reference to the accompanying drawing, in which

15 Fig. 1 is a schematic side view of a pulp dryer according to the invention; and

Fig 2 is a schematic top view of the same pulp dryer according to the invention.

20

DESCRIPTION OF A PREFERRED EMBODIMENT

Fig. 1 illustrates a simplified design of a pulp dryer 1 comprising four driven turning rolls 2 over which a pulp
25 web 3 is passed. At the inlet of the dryer 1, a movable knife 6 and a deflecting roll 7 are arranged, followed by a load sensing means 4 between two supporting rolls 5. The knife 6 can be moved transversely to an arbitrary position along a positioning means 8.

30 Fig. 2 is a top view of the same pulp dryer 1. Where applicable, the reference numerals are the same. In addition, a control unit 10 is illustrated, which is connected to the positioning means 8, the load sensing means 4 and the driving devices for the turning rolls 2.

35 The pulp web 3 is divided by means of the knife 6 into a leader 31 which is passed through the dryer 1, and a second part 32 which via the deflecting roll 7 is sepa-

10018778-122101

rated and recirculated to the forming station (not shown) of the pulp web. The control unit 10 controls the position of the knife 6 with the aid of the positioning means 8 so that the desired width of the leader 31 is obtained.

5 The control unit 10 also controls the driving devices for the turning rolls 2, so that the load sensing means 4 registers a predetermined force in the web 3 (web tension).

By means of a threading belt (not shown) a narrow

10 leader 31 is first introduced into the dryer 1. Subsequently, the leader 31 is successively widened according to a predetermined programme so that finally the entire web 3 is passed through the dryer 1. The control unit 10 controls the driving of the turning rolls

15 2 so that the force in the web (web tension) grows proportionally to the width of the leader 31 at the inlet of the dryer 1. Preferably, this takes place by synchronous control of the position of the knife 6 and the desired value of the load sensing means 4.

10018778-122101

CLAIMS

1. A method for threading a material web through a
5 processing plant, in which
- the material web is divided by a longitudinal cut into a first narrow part and a second broad part, the first part being passed through the processing plant while the
10 second part is separated,
- the width of the first part is increased successively so that a growing share of the material web is passed through the processing plant, so that
15 finally the entire width of the material web is passed through the processing plant, and
- the material web is pulled through the processing plant
20 by a controllable force (tension),
- characterised in
- that the magnitude of the controllable force is automati-
25 cally adjusted to the width of the first part of the material web, preferably in such manner that the magnitude of the force is selected proportional to the width of the first part.
2. A method according to claim 1, characterised
30 ed in that the magnitude of the controllable force is automatically adjusted to the width of the first part of the material web when entering the dryer, preferably so that the magnitude of the force is selected proportional
35 to the width of the first part where the longitudinal cut is made.

10018778-122101

3. A method according to the claim 1 or 2,
characterised in

that the successive increase of the width of that part
5 which is passed through the processing plant is preceded
by an initial interval with an essentially constant
width, and

that the successive increase of the width of that part
10 which is passed through the processing plant occurs
through at least two monotonously growing phases with an
intermediate interval with an essentially constant width,
preferably through three or more monotonously growing
phases with intermediate intervals with essentially
15 constant widths.

4. A method as claimed in claim 1, 2 or 3, for threading
a material web through a processing plant, in which the
material web, in alternating directions, passes through
20 two or more decks, characterised in

that the length of the intermediate interval or intervals
exceeds the length of the material web located in an
individual deck, but

25 that the length of the intermediate interval or intervals
preferably is smaller than twice the length of the
material web located in an individual deck.

30 5. A method according to any one of the preceding claims,
characterised in
that the length of at least one monotonously growing
phase is smaller than the length of the material web
located in an individual deck.

10018778-122101

6. A method according to any one of the preceding claims,
c h a r a c t e r i s e d i n
that the length of each of two or more monotonously grow-
ing phases, preferably the first phases, is smaller than
5 the length of the material web located in an individual
deck.

7. A method according to any one of the preceding claims,
c h a r a c t e r i s e d i n
10 that the width of the first part during the initial
interval is 50-200 mm, preferably about 100 mm.

8. A method according to any one of the preceding claims,
c h a r a c t e r i s e d i n
15 that the width of the first part during one or more mono-
tonously growing phases is increased by a factor 2 to 5.

10018778-122101

1/1

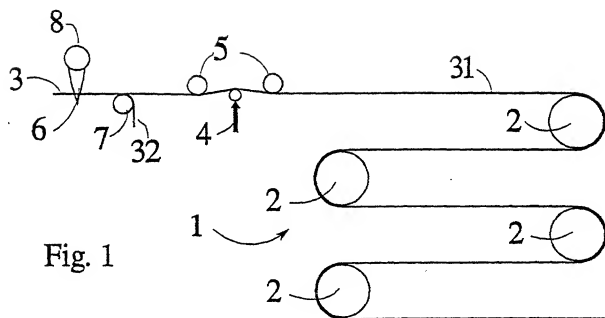


Fig. 1

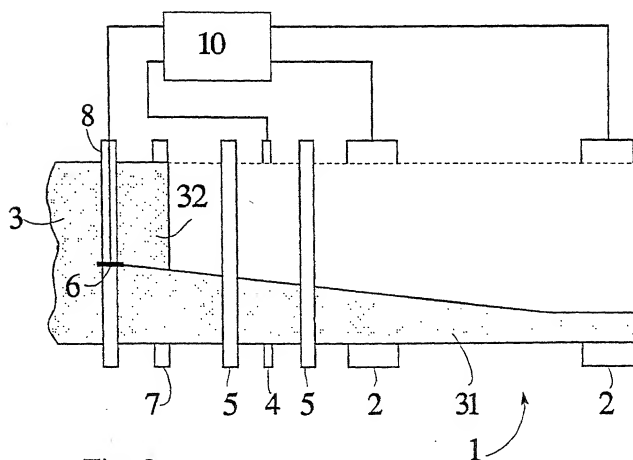


Fig. 2

10018778-122101

**COMBINED DECLARATION AND POWER OF ATTORNEY
FOR UTILITY PATENT APPLICATION**

Attorney's Docket No.

000026-045

KN 3076 US/MJ

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I BELIEVE I AM THE ORIGINAL, FIRST AND SOLE INVENTOR (if only one name is listed below) OR AN ORIGINAL, FIRST AND JOINT INVENTOR (if more than one name is listed below) OF THE SUBJECT MATTER WHICH IS CLAIMED AND FOR WHICH A PATENT IS SOUGHT ON THE INVENTION ENTITLED:

METHOD OF THREADING

the specification of which

(check one)

☐

is attached hereto;

☒

was filed on June 16, 2000 as

Application No. PCT/SE00/01263

and was amended on _____;
(if applicable)

I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE;

I ACKNOWLEDGE THE DUTY TO DISCLOSE TO THE OFFICE ALL INFORMATION KNOWN TO ME TO BE MATERIAL TO PATENTABILITY AS DEFINED IN TITLE 37, CODE OF FEDERAL REGULATIONS, Sec. 1.56 (as amended effective March 16, 1992);

I do not know and do not believe the said invention was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to said application; that said invention was not in public use or on sale in the United States of America more than one year prior to said application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of said application in any country foreign to the United States of America on any application filed by me or my legal representatives or assigns more than twelve months prior to said application;

I hereby claim foreign priority benefits under Title 35, United States Code Sec. 119 and/or Sec. 365 of any foreign application(s) for patent or inventor's certificate as indicated below and have also identified below any foreign application for patent or inventor's certificate on this invention having a filing date before that of the application(s) on which priority is claimed:

10018776-122101

COMBINED DECLARATION AND POWER OF ATTORNEY

Attorney's Docket No.

000026-045

COUNTRY/INTERNATIONAL	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED
Sweden	9902480-4	30 June 1999	YES <u>X</u> NO <u> </u>
			YES <u> </u> NO <u> </u>

I hereby appoint the following attorneys and agent(s) to prosecute said application and to transact all business in the Patent and Trademark Office connected therewith and to file, prosecute and to transact all business in connection with international applications directed to said invention:

William L. Mathis 17,337
Robert S. Swecker 19,885
Platon N. Mandros 22,124
Benton S. Duffett, Jr. 22,030
Norman H. Stepno 22,716
Ronald L. Grudziecki 24,970
Frederick G. Michaud, Jr. 26,003
Alan B. Kopecki 25,813
E. Joseph Gess 26,999
Samuel C. Miller, III 27,360
Robert G. Mukai 28,531
George A. Hovanec, Jr. 28,223
James A. LaBarre 28,632
E. Joseph Gess 28,510
R. Danny Huntington 27,903

Eric H. Weisblatt 30,505
James W. Peterson 26,057
Teresa Stanek Rea 30,427
Robert B. Krebs 25,885
William C. Rowland 30,888
T. Gene Dillahunty 25,423
Patrick C. Keane 32,858
B. Jefferson Boggs, Jr. 32,344
William H. Benz 25,952
Peter K. Skiff 31,917
Richard J. McGrath 29,195
Matthew L. Schneider 32,814
Michael G. Savage 32,596
Gerald F. Swiss 30,113
Charles F. Wieland III 33,096

Bruce T. Wieder 33,815
Todd R. Walters 34,040
Ronni S. Jillions 31,979
Harold R. Brown III 36,341
Allen K. Baum 36,086
Brian P. O'Shaughnessy 32,747
Kenneth B. Leffler 36,075
Fred W. Hathaway 32,236
Wendi L. Weinstein 34,456
Mary Ann Dillahunty 34,576



21839

and: none

Address all correspondence to:



21839

Benton S. Duffett, Jr.
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, Virginia 22313-1404

Address all telephone calls to: Benton S. Duffett, Jr. at (703) 836-6620.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF SOLE OR FIRST INVENTOR

TOMMY FRANSSON

SIGNATURE

DATE

2001-12-07

RESIDENCE

Vaxjö, Sweden

SEX

CITIZENSHIP

Sweden

POST OFFICE ADDRESS

Liljedalsvägen 4, SE-352 54 Vaxjö, Sweden

FULL NAME OF SECOND JOINT INVENTOR, IF ANY

EVERT NILSSON

SIGNATURE

DATE

2001-12-07

RESIDENCE

Ingelstad, Sweden

SEX

CITIZENSHIP

Sweden

POST OFFICE ADDRESS

Almvägen 9, SE-360 44 Ingelstad, Sweden